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EXAMINER

WANG, BEN C

ART UNIT	PAPER NUMBER
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2192

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/792,157	Applicant(s) LALONDE ET AL.	
	Examiner BEN C. WANG	Art Unit 2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's amendment dated February 15, 2008, responding to the Office action mailed October 18, 2007 provided in the rejection of claims 1-25.

Claims 1-25 remain pending in the application and which have been fully considered by the examiner.

Applicant's arguments with respect to claims rejection have been fully considered but are moot in view of the new grounds of rejection – see *Alaire* - art made of record, as applied hereto.

Declaration of Lalonde and Boudreault- Ferland under 37 C.F.R. § 1.131

2. The amendment was filed on February 15, 2008 under 37 CFR §1.131, primarily based on declaration of Jean-Louis Lalonde and Alexandre Boudreault-Ferland under 37 CFR §1.131 (Exhibit A, Exhibit B, and Exhibit C) to swear behind the filing date of November 2003 of Joshua Duhl's reference.

3. The amendment filed on February 15, 2008 under 37 CFR 1.131 is sufficient to overcome the Joshua Duhl's reference.

Claim Rejections – 35 USC § 103(a)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeremy Allaire (*Macromedia® Flash MX-A next-generation rich client, March 2002, Macromedia, Inc.*) (hereinafter 'Allaire' - art made of record) in view of Michel K. Bowman-Amuah (Pat. No. US 6,601,234 B1) (hereinafter 'Bowman-Amuah')

5. **As to claim 1** (Previously Amended), Allaire discloses a distributed fabrication system for creating, while promoting strategic alignment between information technology departments and business units' objectives (e.g., P. 1, Sec. of "The Internet and client-side applications", 3rd Par. - ... these trends are driving the industry towards next-generation rich client.), a business application compatible with XInternet technologies via a communication network (e.g., P. 2, Sec. of "Rich clients and rich Internet Applications" - ... Rich client technologies should: ...; 2nd Bullet – Integrate content, communications, and application interfaces into a common environment ..."), the fabrication system comprising:

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- a client workstation connectable to the communication network, the workstation having a browser interface (e.g., P. 1, 1st Par. - ...
Macromedia® is ushering in the next major innovation in client-side Internet content and applications ...; Sec. of “The Internet and client-side applications”, 1st Par. - ... dynamically composed and delivered ‘pages’ to web browsers);
- a software factory displayed in the browser interface through which a user fabricates the business application in response to business need specifications; the software factory being displayed in the browser interface from factory building files (e.g., P. 2, Sec. of “Rich clients and rich Internet applications”, (a) Provide an efficient, high-performance runtime for executing code, content and communications; (b) Integrate content, communications, and application interfaces into a common environment; (c) Provide powerful and extensible object models for interactivity; (d) Enable rapid application development through components and re-use; (e) Enable the use of web and data services provided by application servers; (f) Embrace connected and disconnected client, and (g) Enable easy deployment on multiple platforms and devices), the software factory comprising:
 - a first tool for defining a solution containing the business application, the first tool comprising components for entering solution parameters (e.g., P.7, Sec. of “Enable rapid application development through

- component and re-use”, 1st Bullet – Macromedia® Flash Components can define customizable properties, methods, and events ...);
- a third tool for validating the solution, the third tool comprising components for previewing the solution online by automatically generating a working prototype of the business application using dynamic database simulation means for testing the working prototype of the business application and communication components for feedback messages between users testing the working prototype of the business application and users constructing the solution (e.g., P. 2, Sec. of “Rich clients and rich Internet applications”, 6th Bullet - Embrace connected and disconnected clients. ... be online and in a web browser to perform work ... Rich clients must enable both of these types of applications to be easily built and deployed); and
 - a fourth tool for generating code offline, said code forming an initial and operational version of the business application to be supplied as a normalized input to a regular desktop development system (e.g., P. 2, Sec. of “Rich clients and rich Internet applications”, 6th Bullet - Embrace connected and be used offline on occasionally connected devices ... Rich clients must enable both of these types of applications to be easily built and deployed); and
 - a web server connectable to the communication network, the web server providing the factory building files and controlling the software factory displayed in the browser interface of the workstation (e.g., P. 2,

Sec. of “Rich clients and rich Internet applications”, 5th Bullet – The promise of rich clients includes the ability to cleanly separate presentation logic and user interfaces from the application logic hosted on the network. Rich clients should provide a model for easily using remote services provided by back-end components ...; P. 8, Sec. of “Enable the use of web services and data services provided by application servers”, 1st Par. - Rich clients are made much more valuable when combined with logic and data delivered from application servers and XML web services ... Macromedia® will provide details on new server solutions for building rich Internet applications with Macromedia Flash®, Macromedia ColdFusion®, and other applications servers: ...; P. 7, Sec. of “Enable rapid application development through components and re-use”, 1st Par. - ... with Macromedia Flash MX®, we’ve introduced a new Macromedia Flash® Component model that enables powerful capabilities to be shared and used by developers of any skill set ...)

Allaire does not explicitly disclose a second tool for constructing the solution using business models in relation with the solution parameters, the second tool comprising components for designing basic characteristics of the solution and a business domain model of the business application having a main entity and related entities, the main entity establishing relationships with the related entities, the main entity and the related entities having attributes and actions, the second tool also comprising components for designing a menu of the business

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application, specific functions of the business application, and functional descriptions of the business application.

However, in an analogous art of *Attribute Dictionary in a Business Logic Services Environment*, Bowman-Amuah discloses a second tool for constructing the solution using business models in relation with the solution parameters (e.g., Col. 174; Lines 57-62), the second tool comprising components for designing basic characteristics of the solution (e.g., Fig. 42, elements of “Other Patterns”, “Other Frameworks”; Fig. 50, element 5008) and a business domain model of the business application having a main entity and related entities (e.g., Fig. 42, element of Business Entity Component; Fig. 50, elements of “Workflow”, “Class Diagram”), the main entity establishing relationships with the related entities (e.g., Fig. 104; Col. 232, Line 53 through Col. 233, Line 49), the main entity and the related entities having attributes and actions (e.g., Col. 10, Line 56 through Col. 11, Line 2), the second tool also comprising components for designing a menu of the business application (e.g., Fig. 40, elements 3906, 4006, 3908), specific functions of the business application (e.g., Fig. 45; Col. Lines 30-31, 58-67), and functional descriptions of the business application (e.g., Fig. 49, element of Detailed Design).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Bowman-Amuah into the Allaire’s system to further provide a second tool for constructing the solution using business models in relation with the solution parameters, the second tool comprising components for designing basic characteristics of the solution and a

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business domain model of the business application having a main entity and related entities, the main entity establishing relationships with the related entities, the main entity and the related entities having attributes and actions, the second tool also comprising components for designing a menu of the business application, specific functions of the business application, and functional descriptions of the business application in Allaire system.

The motivation is that it would further enhance the Allaire's system by taking, advancing and/or incorporating Bowman-Amuah's system which offers significant advantages for software patterns and more particularly to a facility for encapsulating architectural mechanisms within business objects as once suggested by Bowman-Amuah (e.g., Col. 1, Lines 19-21).

6. **As to claim 2** (incorporating the rejection in claim 1) (Original), Allaire discloses the distributed fabrication system wherein the first, the second, the third and the fourth tools of the software factory use a business model to assist with creation of the business application to isolate business application definitions from implementation of the business application on any specific technology platform (e.g., P. 2, Sec. of "Rich clients and rich Internet applications", 3rd Bullet – Provide powerful and extensible object models for interactivity ... this common object model must integrate user interface, communications, and system level services ...; P. 6, Sec. of "Provide a powerful and extensible object model for interactivity", 1st Par. – Macromedia® Flash MX includes one of the richest object models for interactive client applications on the internet ...)

7. **As to claim 3** (incorporating the rejection in claim 1) (Original), Bowman-Amuah discloses the distributed fabrication system (e.g., Figs. 10-12; Col. 31, Lines 52-67) wherein the first tool further comprises importing means for importing a business object and data model (e.g., Col. 115, Lines 27-32; Col. 183, Lines 9-15) for constructing the solution and to design the basic characteristics of the solution, the application business domain model specific functions (e.g., Col. 13, Lines 30-38; Col. 140, Lines 56-65), and the application functional descriptions (e.g., Col. 174, Lines 57-62).

8. **As to claim 4** (incorporating the rejection in claim 1) (Original), Bowman-Amuah discloses the distributed fabrication system (e.g., Figs. 10-12; Col. 31, Lines 52-67) wherein the code forming the business application comprises an applicative framework supplying a generic dynamically adaptable N-Tier client-server-object-oriented applicative infrastructure (e.g., Col. 32, Lines 45-47; Col. 10, Lines 45-55) constructed on top of a third party software system infrastructure (e.g., Col. 37, Lines 39-42) to support the business application (e.g., Col. 19, Lines 34-37), the third party software system infrastructure being complemented by database management system components (e.g., Col. 51, Lines 52-55; Col. 52, Lines 17-35).

9. **As to claim 5** (incorporating the rejection in claim 4) (Original), Allaire discloses the distributed fabrication system wherein the applicative framework

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comprises generic adaptable software structures for the creation of the business application on any specific technology platform using a web server, a business server and a database server on which the business application is fabricated, developed, tested and deployed, the applicative framework also comprising:

- user services for managing a business application user interface, relying on a XInternet one web page application pattern (e.g., P. 7, Sec. of “Enable rapid application development through components and re-use, 1st Par. - ... common patterns and behaviors to be easily encapsulated into components that can be shared and re-used by others ... With Macromedia® Flash MX, ... a new Macromedia® Flash Component model that enables powerful capabilities to be shared and used ...), on a workstation having a browser interface to access the business application from the web server on which business application web services are deployed (e.g., P. 5, Sec. of “Integrate content, communications and application interfaces into a common environment”, 1st Par. - Macromedia Flash MX provides an unparalleled environment in terms of the richness of content, media, and application interface element), the business application user interface being a dynamic web page avoiding web page transitions for user experience (e.g., P. 4, 1st Bullet – Code, media and data caching - ... be cached locally ... without returning to the Internet ...), the user services comprising one web page application components library (e.g., P. 7, Sec. of “Enable rapid application development through components and re-use, 1st Par. - ... common patterns and behaviors to

be easily encapsulated into components that can be shared and re-used ...) for displaying the business application user interface on the browser interface and for communicating between the business application user interface displayed in the browser interface (e.g., P. 3, Sec. of “Provide an efficient, high-performance runtime for executing code, content and communications”, 3rd Bullet – Efficient rendering through vector graphics; 9th Bullet – Visual transitions and visual state) and the business application web services deployed on the web server, the one web page application components library providing bi-directional communications between the workstation and the web server (e.g., Sec. of “Enable the use of web services and data services provided by application servers, 1st Par. – Rich clients are made much more valuable when combined with logic and data delivered from application servers and XML web services; P. 2, Sec. of “Rich clients and rich Internet applications”, 2nd Bullet – Integrate content, communications, and application interfaces into a common environment);

Bowman-Amuah discloses the followings:

- business services for managing business application logic (e.g., Fig. 12, elements of Business Logic, Directory Services) and communications between the business application web services (e.g., Col. 107, Lines 8-11), the applicative framework and the third party software system infrastructure (e.g., Col. 37, Lines 39-42), the business services being implemented on the business server (e.g.,

Fig. 12, elements of Information, Database), the business services comprising generic adaptable components having interface application components (e.g., Fig. 40, element 4006), core application components (e.g., Col. 24, Lines 19-24), utility application components (e.g., Col. 36, Lines 4-7; Col. 59, Lines 14-16) and task application components (e.g., Fig. 12, element System Services – Task); the generic components being used to insure code reusability, adaptability, uniformity, isolation, stability, robustness, scalability and performance (e.g., Col. 125, Lines 46-52); and

- data services (e.g., Col. 88, Lines 46-57) for managing business application data access logic (e.g., Col. 100, Lines 62-64); and communications (Fig. 16, element Network Connections) between the business services (Col. 126, Lines 60-65; Col. 199, Lines 10-13) and the third party database management system components (e.g., Col. 52, Lines 32-34) on the database server (e.g., Col. 34, Lines 24-28) upon request of the business server (e.g., Col. 34, Lines 24-28) on which the business services are implemented, the data services comprising generic adaptable database access components (e.g., Col. 51, Lines 55-64) having database scripts (e.g., Col. 104, Lines 36-40) to automatically assist the creation of application database tables (e.g., Col. 278, Lines 30-33; Fig. 126, creates) and Stored procedures (e.g., Col. 278, Lines 50-54)

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required to access and manage application data on the database server.

10. **As to claim 6** (incorporating the rejection in claim 5) (Original), Allaire discloses the distributed fabrication system wherein the code generated by the fourth tool comprise an approved, operational and well-formed solution comprising the applicative framework specified from business application definitions to be supplied as a normalized input to a regular desktop development system (e.g., P. 5, Sec. of “Integrate content, communications and application interfaces into a common environment, 2nd Bullet – Standard user interface components ... a standard set of user interface components ... from standard building blocks; P. 7, Sec. of “Enable the use of web services and data services provided by application servers”, 1st Bullet – Develop Macromedia Flash services using Macromedia ColdFusion MX®, Java and Microsoft .Net® - ... build with standard Java® Servlets, Java Classes, EJBs, Microsoft’s .NET®)

11. **As to claim 7** (incorporating the rejection in claim 1) (Original), Bowman-Amuah discloses the distributed fabrication system wherein the first tool also comprises security components to define security for business users and information technology experts access rights and roles to the solution (e.g., Fig. 14, element 1410 – Security; Col. 34, Lines 30-32 - Security over service resource ...; Col. 52, Lines 17-24 - ... it handles security, authentication ...; Col. 52, Lines 36-46 - ... depends on the role of user, the user group etc ...)

12. **As to claim 8** (incorporating the rejection in claim 1) (Original), Bowman-Amuah discloses the distributed fabrication system (e.g., Figs. 10-12; Col. 31, Lines 52-67) wherein the second tool comprises web services (e.g., Col. 107, Lines 8-11) to define and connect application domain entities (e.g., Col. 13, Lines 30-38; Col. 140, Lines 56-65) and the third tool comprises web services to preview, test, validate and interact with application domain objects and object links (e.g., Col. 159, Lines 32-42; Col. 171, Lines 24-28; Col. 188, Lines 47-50; Col. 51, Line 65 through Col. 52, Line 3).

13. **As to claim 9** (incorporating the rejection in claim 8) (Original), Bowman-Amuah discloses the distributed fabrication system (e.g., Figs. 10-12; Col. 31, Lines 52-67) wherein the dynamic database simulation means (e.g., Col. 284, Lines 7-10) for testing the working prototype of the business application (e.g., Fig. 2, elements 206, 208; Col. 17, Lines 46-48; Col. 143, Lines 63-64; Col. 166, Lines 2-57) comprise an XML document (e.g., Col. 41, Lines 14-48) simulating an application database, the XML document being used to add, delete and modify the application domain objects (e.g., Col. 277, Lines 29-34) and object links (e.g., Col. 159, Lines 32-42; Col. 171, Lines 24-28; Col. 188, Lines 47-50; Col. 51, Line 65 through Col. 52, Line 3).

14. **As to claim 10** (incorporating the rejection in claim 1) (Original), Bowman-Amuah discloses the distributed fabrication system (e.g., Figs. 10-12; Col. 31,

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Lines 52-67) wherein the database simulation means (e.g., Col. 284, Lines 7-10) for testing the working prototype of the business application (e.g., Fig. 2, elements 206, 208; Col. 17, Lines 46-48; Col. 143, Lines 63-64; Col. 166, Lines 2-57) comprise object operation means for adding objects in a simulated database, modifying the objects in the simulated database, deleting the objects from the simulated database and finding, adding, modifying and deleting links between the objects, the object operation means being used for testing the main entity objects of the application (e.g., Col. 277, Lines 29-34; Col. 51, Lines 52-55; Col. 271, Lines 28-31), the related-entities objects of the application (e.g., Fig. 42, element of Business Entity Component; Fig. 50, elements of "Workflow", "Class Diagram"), the menu of the application (e.g., Fig. 40, elements 3906, 4006, 3908), the specific functions of the application and the functional descriptions of the application (e.g., Fig. 49, element of Detailed Design).

15. **As to claim 11** (incorporating the rejection in claim 1) (Original), Bowman-Amuah discloses the distributed fabrication system (e.g., Figs. 10-12; Col. 31, Lines 52-67) further comprising a database server (e.g., Col. 34, Lines 24-28) connectable to the communication network (e.g., Fig. 16, element Network Connections), wherein the communication components for feedback messages (e.g., Col. 171, 24-28) between the users testing the working prototype of the business application (e.g., Col. 14, Lines 15-25) and the user constructing the solution comprise collaborative functions means (e.g., Col. 119, Lines 24-27; Col. 157, Lines 65-67; Col. 69, Lines 30-36) for providing a collaboration center with

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the feedback messages centralized (e.g., Col. 30, Lines 41-46; Col. 49, Lines 33-36) on the database server.

16. **As to claim 12** (incorporating the rejection in claim 1) (Original), Allaire discloses the distributed fabrication system wherein the factory building files are selected from a group consisting of HTML files (e.g., P. 1, Sec. of “The Internet and client-side application”, 1st Par. – this model centered on a very thin client based on HTML ...), DHTML components files, programs files, assemblies files, components files, XML Documents files and Web Services files accessed (e.g., P. 2, Sec. of “Rich clients and rich Internet applications”, 3rd Bullet - ... and DHTML ...) from HTTP,S and SOAP protocols (e.g., P8, Sec. of “Enable the use of web services and data services provided by application servers”, 2nd Bullet - .. with SOAP-accessible web services hosted over the Internet; 4th Bullet – Support for integrating data via HTTP, sockets and XML ...).

17. **As to claim 13** (incorporating the rejection in claim 1) (Original), Bowman-Amuah discloses the distributed fabrication system (e.g., Figs. 10-12; Col. 31, Lines 52-67) wherein the third tool further comprises components for automatically generating a functional document of the solution (e.g., Fig. 14, element 1416; Col. 53, Lines 21-27; Col. 53, Lines 46-50)

18. **As to claim 14** (incorporating the rejection in claim 1) (Original), Allaire discloses the distributed fabrication system wherein the solution comprises a

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plurality of the business application (e.g., P. 8, Sec. of “Enable the use of web services and data services provided by application servers”, 2nd Bullet – Coherent model for connecting rich clients to web services)

19. **As to claim 15** (incorporating the rejection in claim 1) (Original), Bowman-Amuah discloses the distributed fabrication system (e.g., Figs. 10-12; Col. 31, Lines 52-67) wherein the testing of the working prototype of the business application allows to determine a state of operability (e.g., Col. 23, Lines 1-4) and profitability (e.g., Col. 25, Lines 15-19) of the solution by following a project go/no go type workflow to reduce cost and time for project approval (e.g., Col. 116, Lines 5-7, 14-17).

20. **As to claim 16** (Previously Amended), Allaire discloses an applicative framework system supplying a generic dynamically adaptable N-Tier client-server object-oriented applicative infrastructure constructed on top of a third party software system infrastructure to support a business application compatible with XInternet technologies via a communication network (e.g., P. 2, Sec. of “Rich clients and rich Internet Applications” - ... Rich client technologies should: ...; 2nd Bullet – Integrate content, communications, and application interfaces into a common environment ...”), the third party software system infrastructure being complemented by database management system components, the applicative framework system comprising:

- a client workstation connectable to the communication network, the workstation having a browser interface (e.g., P. 1, 1st Par. - ...
Macromedia® is ushering in the next major innovation in client-side Internet content and applications ...; Sec. of “The Internet and client-side applications”, 1st Par. - ... dynamically composed and delivered ‘pages’ to web browsers);
- a web server connectable to the communication network (e.g., P. 8, Sec. of “Enable the use of web services and data services provided by application servers”, 1st Par. - Rich clients are made much more valuable when combined with logic and data delivered from application servers and XML web services ... Macromedia® will provide details on new server solutions for building rich Internet applications with Macromedia Flash®, Macromedia ColdFusion®, and other applications servers: ...);
- an applicative framework comprising generic adaptable software structures for the creation of the online business application on any specific technology platform using the web server, the business server and the database server on which the business application is fabricated, developed, tested and deployed (e.g., P. 2, Sec. of “Rich clients and rich Internet applications”, 6th Bullet - Embrace connected and disconnected clients. ... be online and in a web browser to perform work ... Rich clients must enable both of these types of applications to be easily built and deployed), the applicative framework also comprising:

- user services for managing a business application user interface, relying on a XInternet one web page application pattern (e.g., P. 7, Sec. of “Enable rapid application development through components and re-use, 1st Par. - ... common patterns and behaviors to be easily encapsulated into components that can be shared and re-used by others ... With Macromedia® Flash MX, ... a new Macromedia® Flash Component model that enables powerful capabilities to be shared and used ...), on a workstation having a browser interface to access the business application online from the web server on which business application web services are deployed (e.g., Sec. of “Enable the use of web services and data services provided by application servers, 1st Par. – Rich clients are made much more valuable when combined with logic and data delivered from application servers and XML web services; P. 2, Sec. of “Rich clients and rich Internet applications”, 2nd Bullet – Integrate content, communications, and application interfaces into a common environment), the business application user interface being a dynamic web page avoiding web page transitions for user experience (e.g., P. 2, Sec. of “Rich clients and rich Internet applications”, 3rd Bullet - ... and DHTML ...), the user services comprising one web page application components library (e.g., P. 7, Sec. of “Enable rapid application development through components and re-use, 1st Par. - ... common patterns and

behaviors to be easily encapsulated into components that can be shared and re-used ...) for displaying the business application user interface on the browser interface (e.g., P. 2, Sec. of "Rich clients and rich Internet applications", (a) Provide an efficient, high-performance runtime for executing code, content and communications; (b) Integrate content, communications, and application interfaces into a common environment; (c) Provide powerful and extensible object models for interactivity; (d) Enable rapid application development through components and re-use; (e) Enable the use of web and data services provided by application servers; (f) Embrace connected and disconnected client, and (g) Enable easy deployment on multiple platforms and devices) and for communicating between the business application user interface displayed in the browser interface and the business application web services deployed on the web server (e.g., P. 8, Sec. of "Enable the use of web services and data services provided by application servers", 1st Par. - Rich clients are made much more valuable when combined with logic and data delivered from application servers and XML web services ... Macromedia® will provide details on new server solutions for building rich Internet applications with Macromedia Flash®, Macromedia ColdFusion®, and other applications servers: ...), the one web page application components library providing bi-directional communications

between the workstation and the web server (e.g., P. 8, Sec. of “Enable the use of web services and data services provided by application servers”, 3rd Bullet - ... communications server technology, Macromedia Flash MX applications will be able to integrate two-way, real-time communications and data)

Allaire does not explicitly disclose the followings:

- a business server connectable to the communication network;
- a database server connectable to the communication network; and
- business services for managing business application logic and communications between the business application online web services, the business services being implemented on the business server, the applicative framework and system components of the third party software system infrastructure, the business services comprising generic adaptable components having interface application components, core application components, utility application components and task application components being used to insure code reusability, adaptability, uniformity, isolation, stability, robustness, scalability and performance; and
- data services for managing online business application data access logic and communications between the business services and the third party database management system components on the database server upon request of the business server on which the business services are implemented, the data services comprising

generic adaptable database access components having database scripts to automatically assist the creation of application database tables and stored procedures required to access and manage application data on the database server.

However, in an analogous art of *Attribute Dictionary in a Business Logic Services Environment*, Bowman-Amuah discloses the followings:

- a business server (e.g., Col. 34, Lines 24-28) connectable to the communication network (e.g., Fig. 16, element Network Connections);
- a database server (e.g., Col. 34, Lines 24-28) connectable to the communication network (e.g., Fig. 16, element Network Connections); and
- business services for managing business application logic (e.g., Fig. 12, elements of Business Logic, Directory Services) and communications between the business application online web services (e.g., Col. 107, Lines 8-11), the business services being implemented on the business server (e.g., Fig. 12, elements of Information, Database), the applicative framework and system components of the third party software system infrastructure (e.g., Col. 37, Lines 39-42), the business services comprising generic adaptable components having interface application components (e.g., Fig. 40, element 4006), core application components (e.g., Col. 24, Lines 19-24), utility application components (e.g., Col. 36, Lines 4-7; Col. 59, Lines 14-16) and task application components (e.g., Fig. 12, element System Services – Task) being used to insure code

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- reusability, adaptability, uniformity, isolation, stability, robustness, scalability and performance (e.g., Col. 125, Lines 46-52); and
- data services (e.g., Col. 88, Lines 46-57) for managing business application data access logic (e.g., Col. 100, Lines 62-64) and communications (e.g., Fig. 16, element Network Connections) between the business services (e.g., Col. 126, Lines 60-65; Col. 199, Lines 10-13) and the third party database management system components (e.g., Col. 52, Lines 32-34) on the database server (e.g., Col. 34, Lines 24-28) upon request of the business server (e.g., Col. 34, Lines 24-28) on which the business services are implemented, the data services comprising generic adaptable database access components (e.g., Col. 51, Lines 55-64) having database scripts (e.g., Col. 104, Lines 36-40) to automatically assist the creation of application database tables (e.g., Col. 278, Lines 30-33; Fig. 126, creates) and stored procedures (e.g., Col. 278, Lines 50-54) required to access and manage application data on the database server.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Bowman-Amuah into the Allaire's system to further provide the followings:

- a business server connectable to the communication network;
- a database server connectable to the communication network; and
- business services for managing business application logic and communications between the business application online web services, the business services being implemented on the business server, the

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- applicative framework and system components of the third party software system infrastructure, the business services comprising generic adaptable components having interface application components, core application components, utility application components and task application components being used to insure code reusability, adaptability, uniformity, isolation, stability, robustness, scalability and performance; and
- data services for managing online business application data access logic and communications between the business services and the third party database management system components on the database server upon request of the business server on which the business services are implemented, the data services comprising generic adaptable database access components having database scripts to automatically assist the creation of application database tables and stored procedures required to access and manage application data on the database server in Allaire system.

The motivation is that it would further enhance the Allaire's system by taking, advancing and/or incorporating Bowman-Amuah's system which offers significant advantages for software patterns and more particularly to a facility for encapsulating architectural mechanisms within business objects as once suggested by Bowman-Amuah (e.g., Col. 1, Lines 19-21).

21. **As to claim 17** (incorporating the rejection in claim 16) (Original), Allaire discloses the applicative framework system wherein the third party software

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system infrastructure comprises a MICROSOFT .NET framework (e.g., P. 8, Sec. of “Enable the use of web services and data services provided by application servers”, 2nd Bullet – Develop Macromedia® Flash services using ... Microsoft® .Net ...) and Bowman-Amuah discloses COM+ service components (e.g., Col. 104, Lines 13-14, 17-21).

22. **As to claim 18** (incorporating the rejection in claim 16) (Original), Bowman-Amuah discloses the applicative framework system wherein the interface application components comprise function means for performing the following operations to help create a normalized data model (e.g., Col. 276, Lines 50-54):

- creating, inserting, updating and deleting main objects (e.g., Col. 177, Lines 24-27; Col. 277, Lines 29-34); creating, inserting, updating and deleting main object related objects (e.g., Col. 177, Lines 24-27; Col. 277, Lines 29-34);
- creating, inserting, updating and deleting main object links to the related objects (e.g., Fig. 42, element of Business Entity Component; Fig. 50, elements of “Workflow”, “Class Diagram”); finding a list of the main objects (Fig. 159, element 15900; Col. 277, Lines 29-34, 35-37; Col. 177, Lines 56-58; Col. 259, Lines 15-21);
- selecting in the list one of the main objects (e.g., Col. 177, Lines 56-58; Col. 259, Lines 15-21); creating, inserting, updating and deleting main object operations (e.g., Col. 177, Lines 56-58; Col. 259, Lines 15-21; Col.

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- 277, Lines 29-34, 35-37); creating, inserting, updating and deleting main object related object operations (e.g., Col. 10, Line 56 through Col. 11, Line 2; Col. 277, Lines 29-34);
- creating, inserting, updating and deleting object de-normalized views (e.g., Col. 276, Lines 55-59); and
- creating, inserting, updating and deleting application menus (Fig. 40, elements 3906, 4006, 3908; Col. 130, Lines 21-24).

23. **As to claim 19** (incorporating the rejection in claim 16) (Original), Bowman-Amuah discloses the applicative framework system wherein the core application components comprise function means for performing the following operations:

- managing business application workflow (e.g., Fig. 12, element of Workflow; Fig. 39, element 3902; Col. 116, Lines 5-7, 14-17) and handling business application architectural aspects (e.g., Fig. 36, element 3604; Col. 127, Lines 48-53), the architectural aspects transaction management (Col. 199, Lines 25-29), error management (e.g., Col. 101, Lines 61-64; Fig. 174, element 17408; Col. 291, Lines 37-39) and diagnostic management (e.g., Col. 265, Line 41);
- implementing business application tasks and rules (e.g., Fig. 12, elements of System Services – Task, Business Logic; Col. 199, Lines 1-6);
- managing data services workflow transactions (e.g., Fig. 26, elements 2606, 2608; Fig. 179; Fig. 182; Fig. 185; Fig. 188); and

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- implementing database connections (e.g., Fig. 24, element 2402; Col. 84, Lines 11-25).

24. **As to claim 20** (incorporating the rejection in claim 16) (Original), Bowman-Amuah discloses the applicative framework system wherein the utility application components (e.g., Col. 36, Lines 4-7; Col. 59, Lines 14-16) comprise an exception manager to manage warnings and errors (e.g., Col. 101, Lines 61-64; Fig. 174, element 17408; Col. 291, Lines 37-39), a diagnostic manager to diagnose the business application (e.g., Col. 265, Line 41) and to recover from errors (Fig. 30, element 3000 – Database Recovery; e.g., Col. 54, Lines 1-6), an email manager to handle electronic communications (e.g., Col. 73, Lines 1-33), a report manager to produce reports (e.g., Fig. 13, element 1316; Fig. 28, element 2880; Fig. 29; Fig. 31, element 3102), configuration files to replace old registry settings (e.g., Col. 26, Lines 64-65; Col. 27, Lines 48-59; Col. 259, Lines 15-21), and common functions means to provide basic reusable functions (e.g., Col. 11, Lines 3-6).

25. **As to claim 21** (incorporating the rejection in claim 16) (Original), Bowman-Amuah discloses the applicative framework system (e.g., Figs. 10-12; Col. 31, Lines 52-67) wherein the task application components comprise a security manager to manage access rights validations (e.g., Col. 61, Lines 20-25; Col. 63, Lines 1-2) to the business application (e.g., Col. 52, Line 52 through Col.

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53, Lines 6) and a reference data manager supporting generic or specific reference table data models (e.g., Fig. 14, element 1410; Col. 52, Lines 30-34).

26. **As to claim 22** (Previously Amended), Allaire discloses a distributed software fabrication process for creating, while promoting strategic alignment between information technologies departments and business units objectives (e.g., P. 1, Sec. of "The Internet and client-side applications", 3rd Par. - ... these trends are driving the industry towards next-generation rich client.), a business application compatible with XInternet technologies via a communication network system (e.g., P. 2, Sec. of "Rich clients and rich Internet Applications" - ... Rich client technologies should: ...; 2nd Bullet – Integrate content, communications, and application interfaces into a common environment ..."), the software fabrication process comprising the steps of:

- displaying a software factory (e.g.,) through a browser interface of a client workstation connectable to the communication network (e.g.,), the software factory allowing a user to fabricate the business application in response to business need specifications, the software factory being displayed in the browser interface from factory building files (e.g.,);
- providing the factory building files from a web server to the client workstation and controlling the software factory displayed in the browser interface of the client workstation (e.g.,);

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- defining a solution containing the business application via the software factory, the software factory comprising a first tool having components for entering solution parameters (e.g.);
- validating the solution via the software factory, the software factory comprising a third tool having components for previewing the solution online by automatically generating a working prototype of the business application using dynamic database simulation means for testing the working prototype of the business application online and communication components for feedback messages between users testing the online working prototype of the business application and users constructing the solution (e.g.);
- generating code offline (e.g., P. 2, Sec. of “Rich clients and rich Internet applications”, 6th Bullet - Embrace connected and be used offline on occasionally connected devices ... Rich clients must enable both of these types of applications to be easily built and deployed) via the software factory (e.g., P. 7, Sec. of “Enable rapid application development through components and re-use, 1st Par. - ... common patterns and behaviors to be easily encapsulated into components that can be shared and re-used by others ... With Macromedia® Flash MX, ... a new Macromedia® Flash Component model that enables powerful capabilities to be shared and used ...) to form an initial and operational version of the business application to be supplied as a normalized input to a regular desktop development system (e.g., P. 2, 6th Bullet - ... to be used offline on

occasionally connected devices such as personal digital assistants (PDAs) and laptops ...), the code forming the business application comprising an applicative framework supplying a generic dynamically adaptable N-Tier client-server object-oriented applicative infrastructure (e.g., P. 6, Sec. of “Provide a powerful and extensible object model for interactivity”, 1st Par. - ... ActionScript provides an object-oriented scripting model for controlling and extending ...) constructed on top of a third party software system infrastructure to support the business application on any specific technology platform (e.g., P. 8, Sec. of “Enable the use of web services and data services provided by application servers”, 1st Par. - Rich clients are made much more valuable when combined with logic and data delivered from application servers and XML web services ...)

Allaire does not explicitly disclose the followings:

- constructing the solution using business models in relation with the solution parameters via the software factory, the software factory comprising a second tool having components for designing basic characteristics of the solution and a business domain model of the business application having a main entity and related entities, the main entity establishing relationships with the related entities, the main entity and the related entities having attributes and actions, the second tool also comprising components for designing a menu Of the business application, specific functions of the business application, and functional descriptions of the business application; and

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- determining a state of operability and profitability of the solution by following a project go/no go type workflow to reduce cost and time for project definition and approval and to improve strategic alignment between information technologies and business units objectives.

However, in an analogous art of *Attribute Dictionary in a Business Logic*

Services Environment, Bowman-Amuah discloses the followings:

- constructing the solution using business models in relation with the solution parameters via the software factory, the software factory comprising a second tool having components for designing basic characteristics of the solution (e.g., Fig. 42, elements of “Other Patterns”, “Other Frameworks”; Fig. 50, element 5008) and a business domain model of the business application having a main entity and related entities (e.g., Fig. 42, element of Business Entity Component; Fig. 50, elements of “Workflow”, “Class Diagram”), the main entity establishing relationships with the related entities (e.g., Fig. 104; Col. 232, Line 53 through Col. 233, Line 49), the main entity and the related entities having attributes and actions (e.g., Col. 10, Line 56 through Col. 11, Line 2), the second tool also comprising components for designing a menu Of the business application (e.g., Fig. 40, elements 3906, 4006, 3908), specific functions of the business application (e.g., Fig. 45; Col. Lines 30-31, 58-67), and functional descriptions of the business application (e.g., Fig. 49, element of Detailed Design); and

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- determining a state of operability (e.g., Col. 23, Lines 1-4) and profitability of the solution (e.g., Col. 25, Lines 15-19) by following a project go/no go type workflow to reduce cost (e.g., Col. 116, Lines 5-7, 14-17) and time for project definition and approval (e.g., Col. 116, Lines 5-7, 14-17) and to improve strategic alignment between information technologies and business units objectives (e.g., Fig. 48 – Business Perspective vs. Systems and Technology Perspective; Col. 16, Line 66 through Col. 17, Line; 4; Fig. 48; Col. 162, Lines 16-19).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teachings of Bowman-Amuah into the Allaire's system to further provide the followings:

- constructing the solution using business models in relation with the solution parameters via the software factory, the software factory comprising a second tool having components for designing basic characteristics of the solution and a business domain model of the business application having a main entity and related entities, the main entity establishing relationships with the related entities, the main entity and the related entities having attributes and actions, the second tool also comprising components for designing a menu Of the business application, specific functions of the business application, and functional descriptions of the business application; and
- determining a state of operability and profitability of the solution by following a project go/no go type workflow to reduce cost and time for

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project definition and approval and to improve strategic alignment between information technologies and business units objectives in Allaire system. The motivation is that it would further enhance the Allaire's system by taking, advancing and/or incorporating Bowman-Amuah's system which offers significant advantages for software patterns and more particularly to a facility for encapsulating architectural mechanisms within business objects as once suggested by Bowman-Amuah (e.g., Col. 1, Lines 19-21)

27. **As to claim 23** (incorporating the rejection in claim 1) (Original), Allaire discloses the distributed fabrication system wherein the browser interface is a container controller (e.g., P. 5, Sec. of "integrate content, communications and application interfaces into a common environment", 1st Bullet - ... Macromedia Flash® provides broad and fine-grained control over text formatting ...; 2nd Bullet - ...; 3rd Bullet - ... developers can easily imagine and create any user interface control ...); P. 6, Sec. of "Provide a powerful and extensible object model for interactivity", 1st Par. - ... the degree of control and flexibility provided to developers is enormous ...; 1st Bullet - ... an object-oriented scripting model for controlling and extending ...; 6th Bullet - ... a new set of APIs from controlling tabbing behavior ...)

28. **As to claim 24** (incorporating the rejection in claim 16) (Original), Allaire discloses the applicative framework system wherein the browser interface is a container controller (e.g., P. 5, Sec. of "integrate content, communications and

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application interfaces into a common environment”, 1st Bullet - ... Macromedia Flash® provides broad and fine-grained control over text formatting ...; 2nd Bullet - ...; 3rd Bullet - ... developers can easily imagine and create any user interface control ...); P. 6, Sec. of “Provide a powerful and extensible object model for interactivity”, 1st Par. - ... the degree of control and flexibility provided to developers is enormous ...; 1st Bullet - ... an object-oriented scripting model for controlling and extending ...; 6th Bullet - ... a new set of APIs from controlling tabbing behavior ...)

29. **As to claim 25** (incorporating the rejection in claim 22) (Original), Allaire discloses a distributed software fabrication process wherein the browser interface is a container controller (e.g., P. 5, Sec. of “integrate content, communications and application interfaces into a common environment”, 1st Bullet - ... Macromedia Flash® provides broad and fine-grained control over text formatting ...; 2nd Bullet - ...; 3rd Bullet - ... developers can easily imagine and create any user interface control ...); P. 6, Sec. of “Provide a powerful and extensible object model for interactivity”, 1st Par. - ... the degree of control and flexibility provided to developers is enormous ...; 1st Bullet - ... an object-oriented scripting model for controlling and extending ...; 6th Bullet - ... a new set of APIs from controlling tabbing behavior ...)

Conclusion

30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ben C. Wang whose telephone number is

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571-270-1240. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on 571-272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ben C Wang/

Examiner, Art Unit 2192

May 16, 2008

/Tuan Q. Dam/

Supervisory Patent Examiner, Art Unit 2192